

INJECTION LASERRelated Applications

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[0001] This application is a continuation of U.S. Patent Application No. 09/781,017, now US Patent 6,748,002, filed on February 9, 2001, which is a continuation-in-part of International Application No. PCT/RU99/00275 filed at the Russian Receiving Office on August 5, 1999, published in a language other than English under PCT Article 21(2) as WO 00/10235 on February 24, 2000. Accordingly, priority under §365(c) is claimed to International Application No. PCT/RU99/00275 filed August 5, 1999. Additionally, priority under §119 is claimed to Russian Patent Application No. 98114581 (now Patent No. 2142665) filed August 10, 1998.

Field of the Invention

[0002] The invention relates to quantum electronic technology, and more specifically to efficient semiconductor sources of radiation with a narrow radiation patterns.

Background of the Invention

[0003] The injection laser (hereinafter referred to as "the laser") is a device that converts electrical energy into the light possessing a narrow spectral composition and high directivity.

[0004] Different types of lasers are known: lasers with a strip-type active lasing region and with radiation output through the mirror of an optical resonator (S. S. Ou *et. al.*, *Electronics Letters* (1992), Vol. 28, No. 25, pp. 2345–2346), distributed-feedback lasers (*Handbook of Semiconductor Lasers and Photonic Integrated Circuits*, edited by Y. Suematsu and A. R. Adams, Chapman–Hill, London, 1994, pp. 44–45 and 393–417), laser amplifiers, including a master oscillator power amplifier (MOPA) (*IEEE J. of Quantum Electronics* (1993), Vol. 29, No. 6, pp. 2052–2057), and lasers with curved resonators and radiation output through a surface (*Electronics Letters* (1992), Vol. 28, No. 21, pp. 3011–3012). Further expansion of the applications of such lasers is impeded by insufficiently high